

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An object-region-data describing method for describing object region data relating to a time-series variation of an object region in video data including a plurality of frames, the method comprising:

specifying at least one of object regions in video data of a first frame of the plurality of frames as a reference object region;

obtaining a conversion parameter representing conversion from the reference object region into an a specified object region in video data of a second frame of the plurality of frames of a target object; and

describing the object region data using the conversion parameter and information on said reference object region.

Claim 2 (Currently Amended): An object-region-data describing method for describing object region data relating to a time-series variation of an object region in video data including a plurality of frames, the method comprising:

specifying at least one of object regions in video data of a first frame of the plurality of frames as a reference object region;

obtaining a conversion parameter representing conversion from the reference object region into an a specified object region in video data of a second frame of the plurality of frames of a target object;

approximating a time-series variation of the conversion parameter by an approximate function; and

describing the object region data using an approximate function parameter identifying the approximate function and information on said reference object region.

Claim 3 (Original): The method according to claim 1, wherein
said information on said reference object region is bit map information.

Claim 4 (Original): The method according to claim 2, wherein
said information on said reference object region is bit map information.

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Claim 5 (Currently Amended): An object-region-data describing method for
describing object region data relating to a time-series variation of an object region in video
data including a plurality of frames, the method comprising:

specifying at least one of object regions in video data of a first frame of the plurality
of frames as a reference object region;
obtaining a conversion parameter representing conversion from a representative point
of an approximate figure of the reference object region into a representative point of an
approximate figure of an object region in video data of a second frame of the plurality of
frames of a target object; and
describing the object region data using the conversion parameter and information on
the representative point of the approximate figure of the reference object region.

Claim 6 (Currently Amended): An object-region-data describing method for
describing object region data relating to a time-series variation of an object region in video
data including a plurality of frames, the method comprising:

specifying at least one of object regions in video data of a first frame of the plurality
of frames as a reference object region;

obtaining a conversion parameter representing conversion from a representative point of an approximate figure of the reference object region into a representative point of an approximate figure of ~~an~~ a specified object region in video data of a second frame of the plurality of frames of a target object;

approximating a time-series variation of the conversion parameter by an approximate function; and

describing the object region data using an approximate function parameter identifying the approximate function and information on the representative point of the approximate figure of the reference object region.

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Claim 7 (Currently Amended): The method according to claim 1, further comprising updating the reference object region such that an error between a predicted object region in video data of the second frame obtained based on the conversion parameter and the information on said reference object region and an actual object region in video data of the second frame of said target object is minimum.

Claim 8 (Currently Amended): The method according to claim 2, further comprising updating the reference object region such that an error between a predicted object region in video data of the second frame obtained based on the conversion parameter and the information on said reference object region and an actual object region in video data of the second frame of said target object is minimum.

Claim 9 (Currently Amended): The method according to claim 5, further comprising updating the reference object region such that an error between a predicted object region in video data of the second frame obtained based on the conversion parameter and the

information on said reference object region and an actual object region in video data of the second frame of said target object is minimum.

Claim 10 (Currently Amended): The method according to claim 6, further comprising updating the reference object region such that an error between a predicted object region in video data of the second frame obtained based on the conversion parameter and the information on said reference object region and an actual object region in video data of the second frame of said target object is minimum.

Claim 11 (Currently Amended): The method according to claim 1, wherein said reference object region is an object region in a center frame among a plurality of successive frames in which said object region of said target exists.

Claim 12 (Currently Amended): The method according to claim 2, wherein said reference object region is an object region in a center frame among a plurality of successive frames in which said object region of said target exists.

Claim 13 (Currently Amended): The method according to claim 5, wherein said reference object region is an object region in a center frame among a plurality of successive frames in which said object region of said target exists.

Claim 14 (Currently Amended): The method according to claim 6, wherein said reference object region is an object region in a center frame among a plurality of successive frames in which said object region of said target exists.

Claim 15 (Currently Amended): The method according to claim 1, ~~wherein said conversion parameter is obtained based on the reference object region for a given frame following a frame including the reference object region, and if further comprising:~~
~~determining whether or not an error between a predicted object region in video data of the second frame obtained based on the conversion parameter and the information on said reference object region and an actual object region in video data of the second frame of said target object exceeds a threshold value[[],]; and~~
~~updating the reference object region is updated by an object region in video data of the given frame when the error exceeds the threshold value.~~

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Claim 16 (Original): The method according to claim 2, wherein said conversion parameter is obtained based on the reference object region for a given frame following a frame including the reference object region, and if an error between a predicted object region obtained based on the conversion parameter and an actual object region of said target object exceeds a threshold value, the reference object region is updated by an object region in the given frame.

Claim 17 (Original): The method according to claim 5, wherein said conversion parameter is obtained based on the reference object region for a given frame following a frame including the reference object region, and if an error between a predicted object region obtained based on the conversion parameter and an actual object region of said target object exceeds a threshold value, the reference object region is updated by an object region in the given frame.

Claim 18 (Original): The method according to claim 6, wherein said conversion parameter is obtained based on the reference object region for a given frame following a frame including the reference object region, and if an error between a predicted object region obtained based on the conversion parameter and an actual object region of said target object exceeds a threshold value, the reference object region is updated by an object region in the given frame.

Q' Claim 19 (Currently Amended): The method according to one of claim [[1]] 11, wherein said conversion parameter is recursively obtained for such frames preceding and succeeding to a center frame among a plurality of successive frames in which said target object region exists that further comprising:

determining whether or not an error between a predicted object region in video data of the second frame obtained based on the conversion parameter and the information on said reference object region and an actual object region in video data of the second frame of said target object exceeds a threshold value[[.]]; and

updating the reference object region by an object region in video data of the given frame when the error exceeds the threshold value.

Claim 20 (Original): The method according to one of claim 2, wherein said conversion parameter is recursively obtained for such frames preceding and succeeding to a center frame among a plurality of successive frames in which said target object region exists that an error between a predicted object region obtained based on the conversion parameter and an actual object region of said target object exceeds a threshold value.

Claim 21 (Original): The method according to one of claim 5, wherein said conversion parameter is recursively obtained for such frames preceding and succeeding to a center frame among a plurality of successive frames in which said target object region exists that an error between a predicted object region obtained based on the conversion parameter and an actual object region of said target object exceeds a threshold value.

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Claim 22 (Original) The method according to one of claim 6, wherein said conversion parameter is recursively obtained for such frames preceding and succeeding to a center frame among a plurality of successive frames in which said target object region exists that an error between a predicted object region obtained based on the conversion parameter and an actual object region of said target object exceeds a threshold value.

Claim 23 (Currently Amended): The method according to claim 1, wherein the object region in video data of the second frame of said target object is divided into a plurality of subregions; and the conversion parameter is respectively obtained for each of said subregions.

Claim 24 (Original): The method according to claim 2, wherein the object region of said target object is divided into a plurality of subregions; and the conversion parameter is respectively obtained for each of said subregions.

Claim 25 (Original): The method according to claim 5, wherein the object region of said target object is divided into a plurality of subregions; and the conversion parameter is respectively obtained for each of said subregions.

Claim 26 (Original): The method according to claim 6, wherein the object region of said target object is divided into a plurality of subregions; and the conversion parameter is respectively obtained for each of said subregions.

Claim 27 (Currently Amended): The method according to claim 1, further comprising describing either related information related to the object region in video data of the second frame of said target object or information indicating a method of accessing the related information.

Q' Claim 28 (Original): The method according to claim 2, further comprising describing either related information related to the object region of said target object or information indicating a method of accessing the related information.

Claim 29 (Original): The method according to claim 5, further comprising describing either related information related to the object region of said target object or information indicating a method of accessing the related information.

Claim 30 (Original): The method according to claim 6, further comprising describing either related information related to the object region of said target object or information indicating a method of accessing the related information.

Claim 31 (Original): A computer readable recording medium storing object region data comprising a first data region storing information identifying a first frame and a last frame of a plurality of frames including an object region in video data, a second data region for storing information identifying the object region in a predetermined frame among the

plurality of frames, and a third data region for storing information relating to conversion from the object region in the predetermined frame into an object region in another frame.

Claim 32 (Currently Amended): A video processing method for determining whether a predetermined object is specified or not on an image screen displaying video data by using object region data in which a time-series variation of an object region in video data including a plurality of frames is described by using a conversion parameter representing conversion from a reference object region in a predetermined first frame of the plurality of frames into an object region in a second frame of the plurality of frames of a target object, the method comprising:

acquiring said conversion parameter from said object region data relating to the predetermined object when a predetermined position is specified on the image screen displaying said video data;

inversely converting a specified predetermined position into a position in a frame in which said reference object region exists by using said conversion parameter; and

determining whether or not the position obtained by inverse conversion exists inside of said reference object region, and determining whether said predetermined object has been specified when it is determined that the position exists inside of said reference object region.

Claim 33 (Original): The method according to claim 32, further comprising presenting related information related to a specified object.

Claim 34 (Currently Amended): An object-region-data describing apparatus for describing object region data relating to a time-series variation of an object region in video data including a plurality of frames, the apparatus comprising:

a processor configured to specify at least one of object regions in a first frame of the plurality of frames as a reference object region;

a processor configured to obtain a conversion parameter representing conversion from the reference object region into an object region in a second frame of the plurality of frames of a target object; and

a processor configured to describe the object region data using the conversion parameter and information on said reference object region.

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Claim 35 (Currently Amended): An object-region-data describing apparatus for describing object region data relating to a time-series variation of an object region in video data including a plurality of frames, the apparatus comprising:

a processor configured to specify at least one of object regions in a first frame of the plurality of frames as a reference object region;

a processor configured to obtain a conversion parameter representing conversion from the reference object region into an object region in a second frame of the plurality of frames of a target object;

a processor configured to approximate a time-series variation of the conversion parameter by an approximate function; and

a processor configured to describe the object region data using an approximate function parameter identifying the approximate function and information on said reference object region.

Claim 36 (Currently Amended): A video processing apparatus for determining whether a predetermined object is specified or not on an image screen displaying video data by using object region data in which a time-series variation of an object region in video data

including a plurality of frames is described by using a conversion parameter representing conversion from a reference object region in a first frame of the plurality of frames into an object region in a second frame of the plurality of frames ~~of a target object~~, the apparatus comprising:

a processor configured to acquire said conversion parameter from said object region data relating to the predetermined object when a predetermined position is specified on the image screen displaying said video data;

a processor configured to inversely convert a specified predetermined position into a position in a frame in which said reference object region exists by using said conversion parameter; and

a processor configured to determine whether or not the position obtained by inverse conversion exists inside of said reference object region, and determine whether said predetermined object has been specified when it is determined that the position exists inside of said reference object region.